

CLAIMS:

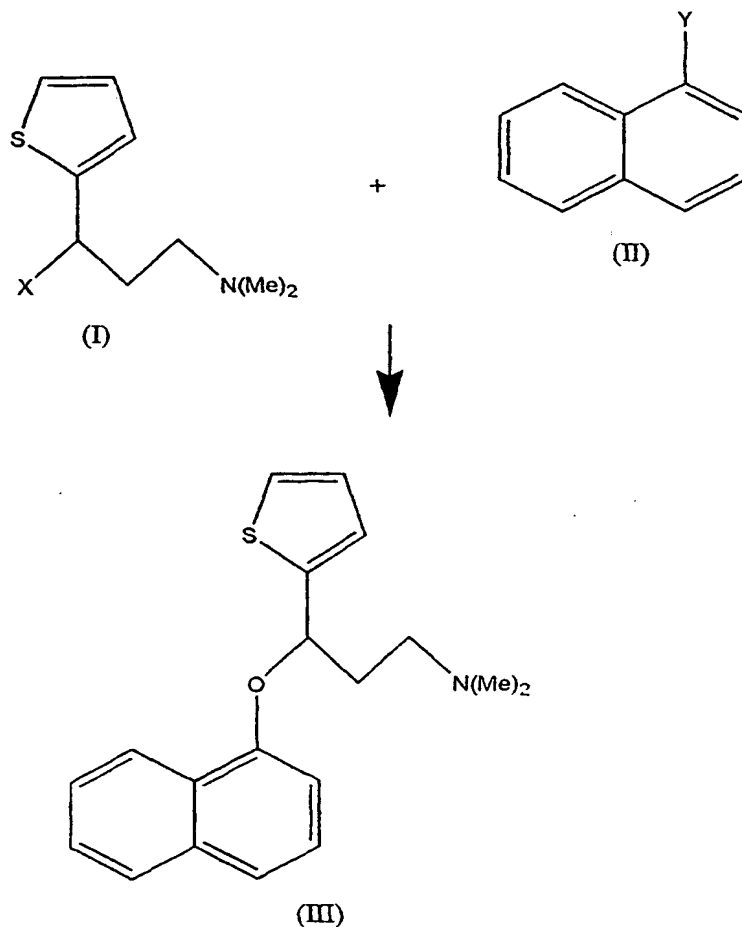
1. A process for preparing (+)duloxetine, or an acid addition salt thereof, which process comprises:
 - (i) resolving racemic (\pm)duloxetine with a chiral acid so as to obtain a salt of the chiral acid and (+)duloxetine, substantially free of (-)duloxetine; and
 - (ii) if desired, converting the salt prepared in step (i) to the free base or a further acid addition salt.
2. A process according to claim 1, wherein the chiral acid is selected from the group consisting of mandelic acid, tartaric acid, di-p-toluyyl tartaric acid, dibenzoyl tartaric acid and camphor sulfonic acid.
3. A process according to claim 2, wherein the chiral acid is di-p-toluyyl tartaric acid.
4. A process according to any of claims 1 to 3, wherein step (ii) comprises reacting a salt prepared in (i) with hydrochloric acid to yield (+)duloxetine hydrochloride.
5. A process for preparing (+)duloxetine hydrochloride, which process comprises:
 - (i) resolving racemic (\pm)duloxetine with di-p-toluyyl tartaric acid so as to obtain (+)duloxetine di-p-toluyyl tartrate, substantially free of (-)duloxetine; and
 - (ii) converting (+)duloxetine di-p-toluyyl tartrate prepared in step (i) to (+)duloxetine hydrochloride.
6. A process which comprises:

(i) resolving racemic (\pm)duloxetine with a chiral acid in a process according to any of claims 1 to 5, and obtaining a mother liquor enriched in (-)duloxetine;

(ii) converting (-)duloxetine obtained from step (i) to (\pm)duloxetine; and

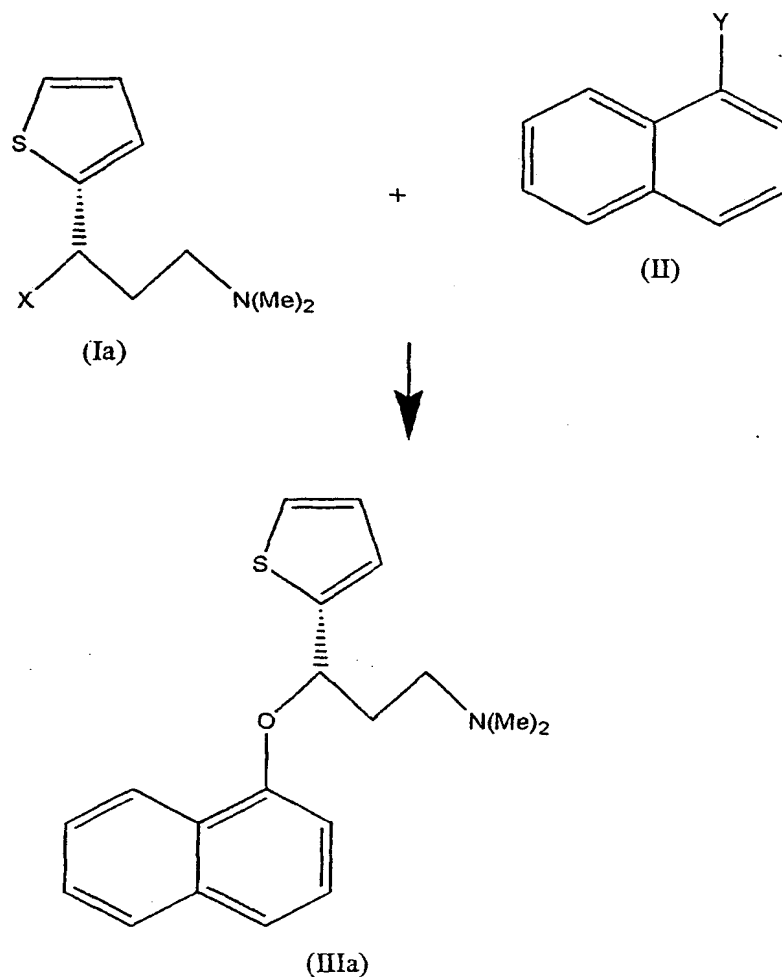
(iii) if desired, employing (\pm)duloxetine obtained from step (ii) in a process according to any of claims 1 to 5.

7. A process for making (+)duloxetine or an acid addition salt thereof, comprising reacting intermediate compounds of formulae (I) and (II) so as to yield a compound of formula (III), or an acid addition salt thereof:



in the presence of a base and a phase transfer catalyst, where one of X and Y is hydroxy and the other is a leaving group, and subjecting a compound of formula (III), or an acid addition salt thereof, to further process steps so as to yield (+) duloxetine, or an acid addition salt thereof, substantially free of (-)duloxetine.

8. A process for making (+)duloxetine or an acid addition salt thereof, comprising reacting intermediate compounds of formulae (Ia) and (II) so as to yield a compound of formula (IIIa), or an acid addition salt thereof:



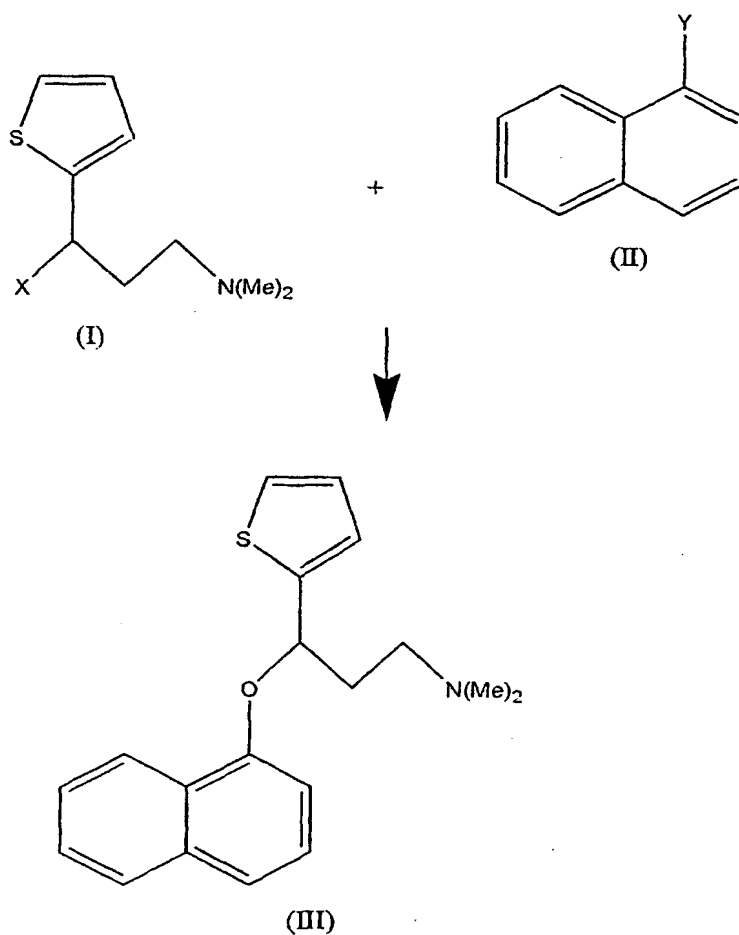
in the presence of a base and a phase transfer catalyst, where one of X and Y is hydroxy and the other is a leaving group, and subjecting a compound of formula (IIIa), or an acid addition

salt thereof, to further process steps so as to yield (+) duloxetine, or an acid addition salt thereof, substantially free of (-)duloxetine.

9. A process according to claim 7 or 8, wherein an intermediate of formula (III) or (IIIa), or an acid addition salt thereof, is converted to (\pm)duloxetine, or (+)duloxetine respectively, by demethylating.

10. A process for making (+)duloxetine or an acid addition salt thereof, which comprises:

(i) reacting intermediate compounds of formulae (I) and (II) to yield an intermediate compound of formula (III), or an acid addition salt thereof,

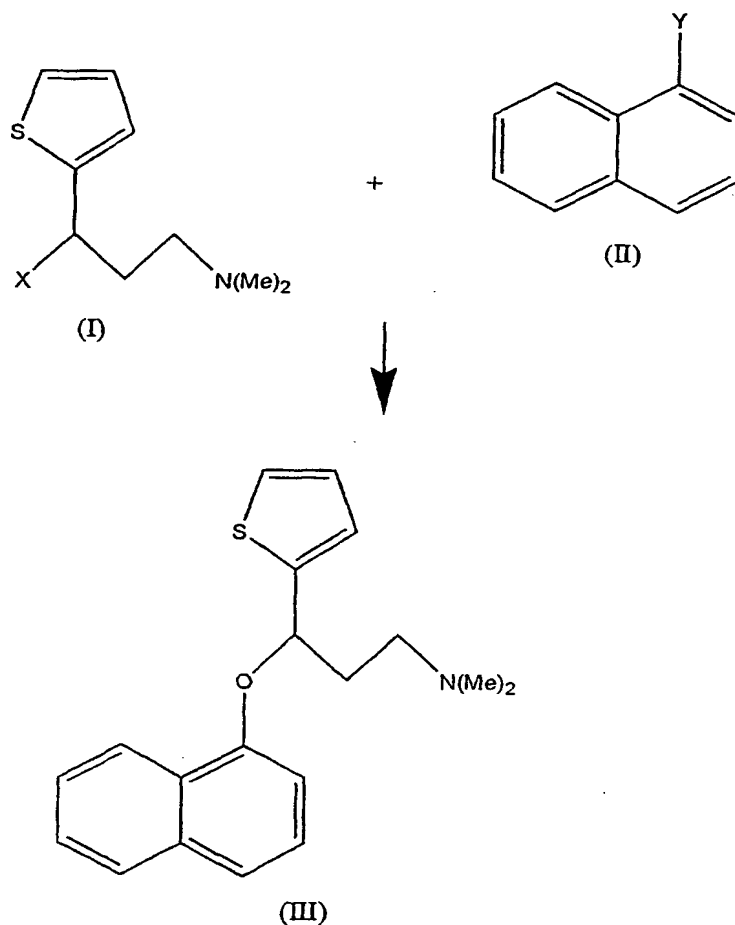


in the presence of a base and a phase transfer catalyst;

- (ii) demethylating a compound of formula (III), or an acid addition salt, so as to yield (\pm)duloxetine; and
- (iii) converting (\pm)duloxetine obtained in step (ii) to (+)duloxetine, or an acid addition salt thereof, employing a process according to any of claims 1 to 5.

11. A process for making (+)duloxetine hydrochloride which comprises:

- (i) reacting intermediate compounds of formulae (I) and (II), where X is hydroxy and Y is fluoro, followed by oxalic acid to yield an oxalate salt of intermediate compound of formula (III)



in the presence of a base and a phase transfer catalyst;

(ii) demethylating said intermediate compound of formula (III) obtained by step (i) so as to yield (\pm)duloxetine; and

(iii) converting (\pm)duloxetine obtained in step (ii) to (+)duloxetine by resolving racemic (\pm)duloxetine with di-p-toluyyl tartaric acid so as to obtain (+)duloxetine di-p-toluyyl tartrate, substantially free of (-)duloxetine, and converting said (+)duloxetine di-p-toluyyl tartrate to (+)duloxetine hydrochloride.

12. A process according to any of claims 7 to 11, wherein the base is selected from the group consisting of an alkali metal hydroxide, an alkali metal carbonate and an alkali metal bicarbonate.

13. A process according to claim 12, wherein the base is selected from the group consisting of potassium hydroxide, sodium hydroxide, potassium carbonate, sodium carbonate and sodium bicarbonate.

14. A process according to any of claims 7 to 13, where the phase transfer catalyst is selected from the group consisting of crown ethers, quaternary ammonium salts and phosphonium salts.

15. A process according to claims 7 to 10, wherein X is hydroxy and Y is a leaving group.

16. A process according to claim 15, wherein the leaving group is halo.

17. A process according to claim 16, wherein the leaving group is fluoro.

18. A salt of a chiral acid and (+)duloxetine, containing not more than 1% of (-)duloxetine.

19. A salt of a chiral acid and (+)duloxetine, substantially free of (-)duloxetine, selected from the group consisting of (+)duloxetine mandelate, (+)duloxetine tartrate, (+)duloxetine di-p-toluyyl tartrate, (+)duloxetine dibenzoyl tartrate and (+)duloxetine camphor sulfonate.

20. (+)duloxetine di-p-toluyyl tartrate, substantially free of (-)duloxetine.
21. (+)duloxetine, or an acid addition salt thereof, obtained by a process according to any of claims 1 to 17.
22. A pharmaceutical composition comprising (+)duloxetine, or an acid addition salt thereof, obtained by a process according to any of claims 1 to 17.